Parent is $b = \sqrt{a}$

$y = -\sqrt{x}$ is graphed by vertical reflection over x axis. $(a, b) \to (a, -b)$

$y = \sqrt{-x}$ is graphed by horizontal reflection over y axis. $(a, b) \to (-a, b)$

$y = \sqrt{x + 2}$ is graphed by translation left by distance 2. $(a, b) \to (a - 2, b)$

$y = \sqrt{x - 2}$ is graphed by translation right by distance 2. $(a, b) \to (a + 2, b)$

$y = \sqrt{x} + 2$ is graphed by translation up by distance 2. $(a, b) \to (a, b + 2)$

$y = \sqrt{x} - 2$ is graphed by translation down by distance 2. $(a, b) \to (a, b - 2)$

$y = \sqrt{\frac{x}{2}}$ is graphed by horizontal stretch by factor 2. $(a, b) \to (2a, b)$

$y = \sqrt{2x}$ is graphed by horizontal shrink by factor 2. $(a, b) \to (\frac{a}{2}, b)$

$y = 2 \cdot \sqrt{x}$ is graphed by vertical stretch by factor 2. $(a, b) \to (a, 2b)$

$y = \frac{\sqrt{x}}{2}$ is graphed by vertical shrink by factor 2. $(a, b) \to (a, \frac{b}{2})$

Parent is $b = \sqrt[3]{a}$

$y = -\sqrt[3]{x}$ is graphed by vertical reflection over x axis. $(a, b) \to (a, -b)$

$y = \sqrt[3]{-x}$ is graphed by horizontal reflection over y axis. $(a, b) \to (-a, b)$

$y = \sqrt[3]{x + 2}$ is graphed by translation left by distance 2. $(a, b) \to (a - 2, b)$

$y = \sqrt[3]{x - 2}$ is graphed by translation right by distance 2. $(a, b) \to (a + 2, b)$

$y = \sqrt[3]{x} + 2$ is graphed by translation up by distance 2. $(a, b) \to (a, b + 2)$

$y = \sqrt[3]{x} - 2$ is graphed by translation down by distance 2. $(a, b) \to (a, b - 2)$

$y = \sqrt[3]{\frac{x}{2}}$ is graphed by horizontal stretch by factor 2. $(a, b) \to (2a, b)$

$y = \sqrt[3]{2x}$ is graphed by horizontal shrink by factor 2. $(a, b) \to (\frac{a}{2}, b)$

$y = 2 \cdot \sqrt[3]{x}$ is graphed by vertical stretch by factor 2. $(a, b) \to (a, 2b)$

$y = \frac{\sqrt[3]{x}}{2}$ is graphed by vertical shrink by factor 2. $(a, b) \to (a, \frac{b}{2})$

Parent is $b = a^3$

$y = -x^3$ is graphed by vertical reflection over x axis. $(a, b) \to (a, -b)$

$y = (-x)^3$ is graphed by horizontal reflection over y axis. $(a, b) \to (-a, b)$

$y = (x + 2)^3$ is graphed by translation left by distance 2. $(a, b) \to (a - 2, b)$

$y = (x - 2)^3$ is graphed by translation right by distance 2. $(a, b) \to (a + 2, b)$

$y = x^3 + 2$ is graphed by translation up by distance 2. $(a, b) \to (a, b + 2)$

$y = x^3 - 2$ is graphed by translation down by distance 2. $(a, b) \to (a, b - 2)$

$y = \left(\frac{x}{2}\right)^3$ is graphed by horizontal stretch by factor 2. $(a, b) \to (2a, b)$

$y = (2x)^3$ is graphed by horizontal shrink by factor 2. $(a, b) \to (\frac{a}{2}, b)$

$y = 2 \cdot x^3$ is graphed by vertical stretch by factor 2. $(a, b) \to (a, 2b)$

$y = \frac{x^3}{2}$ is graphed by vertical shrink by factor 2. $(a, b) \to (a, \frac{b}{2})$

Parent is $b = 2^a$

$y = -2^x$ is graphed by vertical reflection over x axis. $(a, b) \to (a, -b)$

$y = 2^{-x}$ is graphed by horizontal reflection over y axis. $(a, b) \to (-a, b)$

$y = 2^{x+2}$ is graphed by translation left by distance 2. $(a, b) \to (a - 2, b)$

$y = 2^{x-2}$ is graphed by translation right by distance 2. $(a, b) \to (a + 2, b)$

$y = 2^x + 2$ is graphed by translation up by distance 2. $(a, b) \to (a, b + 2)$

$y = 2^x - 2$ is graphed by translation down by distance 2. $(a, b) \to (a, b - 2)$

$y = 2^{\frac{x}{2}}$ is graphed by horizontal stretch by factor 2. $(a, b) \to (2a, b)$

$y = 2^{2x}$ is graphed by horizontal shrink by factor 2. $(a, b) \to (\frac{a}{2}, b)$

$y = 2 \cdot 2^x$ is graphed by vertical stretch by factor 2. $(a, b) \to (a, 2b)$

$y = \frac{2^x}{2}$ is graphed by vertical shrink by factor 2. $(a, b) \to (a, \frac{b}{2})$

Parent is $b = \log_2(a)$

$y = -\log_2(x)$ is graphed by vertical reflection over x axis. $(a, b) \to (a, -b)$

$y = \log_2(-x)$ is graphed by horizontal reflection over y axis. $(a, b) \to (-a, b)$

$y = \log_2(x + 2)$ is graphed by translation left by distance 2. $(a, b) \to (a - 2, b)$

$y = \log_2(x - 2)$ is graphed by translation right by distance 2. $(a, b) \to (a + 2, b)$

$y = \log_2(x) + 2$ is graphed by translation up by distance 2. $(a, b) \to (a, b + 2)$

$y = \log_2(x) - 2$ is graphed by translation down by distance 2. $(a, b) \to (a, b - 2)$

$y = \log_2\left(\frac{x}{2}\right)$ is graphed by horizontal stretch by factor 2. $(a, b) \to (2a, b)$

$y = \log_2(2x)$ is graphed by horizontal shrink by factor 2. $(a, b) \to (\frac{a}{2}, b)$

$y = 2 \cdot \log_2(x)$ is graphed by vertical stretch by factor 2. $(a, b) \to (a, 2b)$

$y = \frac{\log_2(x)}{2}$ is graphed by vertical shrink by factor 2. $(a, b) \to (a, \frac{b}{2})$

Parent is $b = a^2$

$y = -x^2$ is graphed by vertical reflection over x axis. $(a, b) \to (a, -b)$

$y = (-x)^2$ is graphed by horizontal reflection over y axis. $(a, b) \to (-a, b)$

$y = (x + 2)^2$ is graphed by translation left by distance 2. $(a, b) \to (a - 2, b)$

$y = (x - 2)^2$ is graphed by translation right by distance 2. $(a, b) \to (a + 2, b)$

$y = x^2 + 2$ is graphed by translation up by distance 2. $(a, b) \to (a, b + 2)$

$y = x^2 - 2$ is graphed by translation down by distance 2. $(a, b) \to (a, b - 2)$

$y = \left(\frac{x}{2}\right)^2$ is graphed by horizontal stretch by factor 2. $(a, b) \to (2a, b)$

$y = (2x)^2$ is graphed by horizontal shrink by factor 2. $(a, b) \to (\frac{a}{2}, b)$

$y = 2 \cdot x^2$ is graphed by vertical stretch by factor 2. $(a, b) \to (a, 2b)$

$y = \frac{x^2}{2}$ is graphed by vertical shrink by factor 2. $(a, b) \to (a, \frac{b}{2})$